

US Department of the Interior

Bureau of Land Management Coeur d'Alene District Coeur d'Alene Field Office, Idaho

February 2005



Coeur d'Alene Field Office Planning Area

Mineral Occurrence and Development Potential Report



MINERAL OCCURRENCE AND **DEVELOPMENT POTENTIAL REPORT**

COEUR D'ALENE FIELD OFFICE PLANNING AREA

Prepared for

BUREAU OF LAND MANAGEMENT Coeur d'Alene Field Office 1808 North Third Street Coeur d'Alene, ID 83814-3407

Prepared by

TETRA TECH, INC.

San Francisco, California 94105

180 Howard Street, Suite 250 4900 Pearl East Circle, Suite 300W Boulder, Colorado 80301

and

SILVERFIELDS, INC. 2816 Hill Rd Boise, Idaho 83703

February 2005

_		E CONTENTO	
Sec		F CONTENTS	Page
EXE	CUTIVE S	SUMMARY	ES-1
1.	INTRO	ODUCTION	1-1
	1.1	Purpose of Report	
	1.2	Lands Involved and Data Sources	
2.		CRIPTION OF GEOLOGY	
	2.1	Physiography	
	2.1	General Stratigraphy	
	2.2	2.2.1 Precambrian Era	
		2.2.2 Paleozoic Era	
		2.2.3 Mesozoic Era	
		2.2.4 Cenezoic Era	2-11
	2.3	Intrusive/Extrusive Rocks	
		2.3.1 Proterozoic Age Intrusives	
		2.3.2 Mesozoic Age Intrusives	
		2.3.3 Tertiary Age Intrusives	
	0.4	2.3.4 Tertiary Volcanics	
	2.4 2.5	Structural GeologyGeological History	
	2.5	2.5.1 Proterozoic Era	
		2.5.2 Paleozoic Era	
		2.5.3 Mesozoic Era	
		2.5.4 Tertiary Period	
		2.5.5 Quaternary Period	
3.	DESC	CRIPTION OF MINERAL RESOURCES	3-1
	3.1	Leasable Minerals	
		3.1.1 Coal	
		3.1.2 Peat	3-11
		3.1.3 Geothermal Resources	
		3.1.4 Oil and Gas	
		3.1.5 Other Leasable Minerals	3-14
	0.0	3.1.6 Acquired Lands—Leasable Minerals	
	3.2	Locatable Mineral	
		3.2.1 Gold	
		3.2.3 Strategic Minerals	
		3.2.4 Other Minerals	
	3.3	Salable Minerals	
	3. 3	3.3.1 Sand and Gravel and Quarry Rock	

3.3.2 3.3.3

3.3.4

3.3.5

3.3.6

Clay......3-49

TAB	LE OF	CONTENTS (continued)		
Section	n			Page
		3.3.7 Other Material		. 3-52
4.	MINE	RAL RESOURCE DEVELOPMENT POTENTIAL		4-1
	4.1	Mineral Potential		4-1
	4.2	Leasable Minerals Potential		
		4.2.1 Coal/Peat		.4-13
		4.2.2 Geothermal		.4-14
		4.2.3 Oil and Gas		
		4.2.4 Other Leasable Minerals		
		4.2.5 Acquired Minerals Leases		
	4.3	Locatable Minerals		
		4.3.1 Silver, Lead, and Zinc		
		4.3.2 Gold		
		4.3.3 Strategic Minerals		
	4.4	4.3.4 Other Minerals		
	4.4	4.4.1 Sand, Gravel, and Quarry Rock (aggregate)		
		4.4.2 Pumice and Pumicite		4-25
		4.4.3 Silica/Quartzite		
		4.4.4 Limestone		_
		4.4.5 Clay		
		4.4.6 Dimension Stone		
	4.5	Conclusions		. 4-27
5.	RECO	MMENDATIONS		5-1
6.	REFE	RENCES		6-1
7.		SARY		
<u> </u>				
	ENDI	JES		
Apper	ndix			
Α	Oi	I and Gas Leases in Idaho		
В	Δα	BLM Case Information equired Lands Mineral Leases		
		BLM Case Information		
С	M	ineral Materials Contracts BLM Case Information		
D	Ri	ght-of-way Contract/Material Sites		
_	N /1	BLM Case Information		
Ε	IVI	ineral Commodity Maps of Idaho US Geological Survey, Mineral and Water Resources of Idaho, 1964.		
F	In	dustrial Mineral Map of Idaho		
		US Bureau of Mines, Principal Deposits of Industrial Minerals in Idaho, 1 Publication.	1990,	Specia
G	Sa	and, Gravel, and Crushed Stone in Idaho—District 1 Coeur d'Alene District US Bureau of Mines, Principal Deposits of Industrial Minerals in Idaho, 1 Publication.	1990,	Specia

List	OF FIGURES	
Figure		Page
1 1	Coneral Legation Man of the Coour d'Alone DMD	1 5
1-1 2-1	General Location Map of the Coeur d'Alene RMP	
2-1 2-2	Physiographic Map of Idaho	
2-2 2-3	Generalized Geologic Map of Idaho	
2-3 2-4	Geology Map of the Coeur d'Alene Field Office Area	
3-1	Map of Active BLM leases, acquired leases, material sales contracts and inactive (closed) leases.	
3-2	Map of Mines and Prospects of the Coeur d'Alene Field Office Area	
3-2 3-3		
	Geothermal Resources Map of the Coeur d'Alene Field Office Area	
3-4	Gold value and production in Idaho, 1863-1988	
3-5	Silver Values and Production in Idaho—1863-1988	
3-6	Lead/Zinc Value and Production in Idaho—1863-1988	
3-7	Map of Garnet Deposits in Idaho	
3-8	Sand, Gravel and Crushed Stone in Idaho-District 1	
3-9 3-10	Silica in Idaho	
3-10 3-11	Map of Clay Deposits in Idaho	
3-11 3-12	Map of Clay Deposits in Idaho Map of Dimension Stone in Idaho	
3-12 4-1	Map of Potential Mineral Resource Areas in the Coeur d'Alene Field Office Area	
4 -1 4-2	Mineral Resources, Coeur d'Alene Field Office	
List	OF TABLES	
Table		Page
Table		i agc
3-1 3-2	Operating Permits and Plans Managed by the BLM Coeur d'Alene Field Office Mineral Leases and Prospecting Permits—Acquired Lands BLM Coeur d'Alene F	
	Office	
3-3	Materials Salable Contracts—BLM Coeur d'Alene Field Office	
3-4	Oil and Gas Leases in Northern Idaho—Drill Holes	
3-5	Gold-Producing Districts of Northern Idaho	
3-6	Silver, Lead, and Zinc-Producing Districts—Northern Idaho	
3-7	Principal Silica Deposits of Northern Idaho	
3-8	Principal Limestone Deposits of Northern Idaho	
3-9	Principal Clay Deposits of Northern Idaho	
4-1	Nonfuel Raw Mineral Production in Idaho (1992-2002)	
4-2	Recent Mines and Exploration in Idaho 1994-2003	
4-3	Mineral Potential in the Coeur d'Alene Field Office Area	
4-4	Summary of Commodity Potential of the Coeur d'Alene Field Office Area	

LIST OF ACRONYMS Acronym or Abbreviation	Full Phrase
BIA	Bureau of Indian Affairs
BLM	United States Department of the Interior, Bureau of Land Management
BOR	Bureau of Reclamation
CFR	Code of Federal Regulations
EIS	environmental impact statement
Forest Service	United States Department of Agriculture, Forest Service
KGRA	known geothermal resource areas
MFP	Management Framework Plan
planning area	Coeur d'Alene Field Office RMP planning area
RMP ROW	resource management plan right-of-way
US USC	United States United States Code



EXECUTIVE SUMMARY

The mineral resource potential was evaluated as part of the Resource Management Plan for the Coeur D'Alene Field Office area. The leasable, acquired lands leasable, locatable, and salable commodities, including fuel and nonfuel varieties, were assessed..

The report includes sections on geology, mineral resources, and mineral resource potential, and recommendations.

A summary of the geology and geological conditions that are important for the formation of mineral resources in the region is presented. The description of the mineral resources includes the documentation of mines, prospects, and occurrences that are present within the planning area. Tabulation of production or resources figures for various commodities is presented where available.

The mineral resource potential was rated according to the criteria outlined in BLM Manual 3031, Mineral Potential Resource Classification. A high mineral resource classification was assigned to the following commodities where the BLM has a significant land base:

- Silver/lead/zinc in the Coeur d'Alene Mining District;
- Gold in the Murray Mining District;
- Garnet, both abrasive and recreational, in the Emerald Creek District;
- Sand/gravel/aggregate in the Coeur d'Alene and Pend Oreille areas; and

 Dimension stone throughout the planning area (dimension stone is any naturally occurring stone that is used for building or ornamental purposes).

Strategic minerals were evaluated as low potential, although this is based on limited information. Energy resources, including oil/gas, coal, and geothermal energy, have a low potential in the planning area. All of the other minerals within the various mineral management categories are considered to have low potential.

Recommendations are as follows:

- Review and update the mineral resource classification annually.
- Identify and evaluate areas or commodities that require additional assessment due to their critical status or important location. These include the strategic minerals cobalt-nickel, thorium-rare earths, and niobium-tantalum.
- Complete a higher level of mineral resources assessment within current areas considered for special designation or withdrawal status. This includes placer deposits of gold or black-sands and sand/gravel/aggregate resources.